

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having opposed side faces angled relative to each other to form a base at said root diameter of said shaft, said base being smaller proximate said second shaft portion than proximate said first shaft portion, said screw being made of a material suitable for implantation into the human skeleton.

539. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at

least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

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a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having a profile with opposed side faces and a crest, said crest along at least a portion of the length of said first shaft portion being substantially uniform to said crest along at least a portion of the length of said second shaft portion proximate said head, said screw being made of a material suitable for implantation into the human skeleton.

540. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

B1 a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and a thread along at least a portion of said shaft adapted to engage the cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said thread having opposed side faces intersecting at an angle to form a crest along at least a portion of the length of said second shaft portion proximate said head, said screw being made of a material suitable for

Implantation into the human skeleton.

541. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

B1 a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter, said root diameter of said shaft being curved along at least a portion of the length of said shaft in a direction parallel to a mid-longitudinal axis of said shaft, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft adapted to engage the

cervical vertebral body, said thread having an outer diameter that is generally uniform along at least a substantial portion of each of said first and second shaft portions, said screw being made of a material suitable for implantation into the human skeleton.

542. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a head adapted to block further forward motion of said screw through said bone screw receiving hole of said plate, said head having an upper portion and a lower portion, said upper portion being configured to cooperatively engage a driver instrument adapted to insert said screw into the vertebral body, said upper and lower portions of said head each having a cross sectional dimension transverse to the mid-longitudinal axis of said screw, said cross sectional dimension of said upper portion being less than said cross sectional dimension of said lower portion, said lower portion of said head having a top surface facing

said upper portion being at least in part in a plane generally transverse to the mid-longitudinal axis of said screw;

a tip for insertion into the cervical vertebral body;

a shaft between said tip and said head, said shaft having a mid-longitudinal axis and a root diameter, said shaft having a first shaft portion proximate said tip and a second shaft portion proximate said head, the root diameter of said first shaft portion being less than the root diameter of said second shaft portion; and

a thread along at least a portion of said shaft, said thread adapted to engage the bone of the cervical vertebral body.

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543. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a shaft having a leading end configured to pass at least in part through said plate and adapted for insertion into the bone of a cervical vertebral body

and a trailing end opposite said leading end, said shaft having a mid-longitudinal axis and a root diameter; and

a thread along at least a portion of said shaft, said thread adapted to engage the bone of the vertebral body, said thread having opposed side faces being angled relative to each other to form an apex of said thread, said side faces forming an included angle in the range of 11 degrees to 30 degrees, said screw being made of a material suitable for human implantation.

544. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a shaft having a leading end configured to pass at least in part through said plate and adapted for insertion into the bone of a cervical vertebral body, a mid-longitudinal axis, and a trailing end opposite said leading end, said shaft having a root diameter; and

a thread along at least a portion of said shaft, said thread adapted to

engage the bone of the cervical vertebral body, said thread having opposed side faces, said side faces being angled relative to each other to form a base at said root diameter of said shaft and a crest opposite said base, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base, said screw being made of a material suitable for human implantation.

545. A plating system, comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a leading end configured to pass at least in part through said plate and adapted for insertion into the bone of the cervical vertebral body, a mid-longitudinal axis, and a trailing end opposite said leading end, a portion of said screw proximate said trailing end being configured to contact said plate and to prevent said screw from passing entirely through said plate;

a shaft between said leading end and said trailing end, said shaft having a root diameter that increases along a substantial portion of the mid-longitudinal

axis of said screw in a direction from said leading end toward said trailing end;
and

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a thread along said shaft adapted to engage the bone of the vertebral body, said thread having an outer diameter that is generally uniform along a substantial portion of said shaft, said thread having opposed side faces, said side faces being angled relative to each other to form the apex of said thread, said side faces forming an included angle in the range of 11 degrees to 21 degrees, said side faces forming a base at said root diameter of said shaft, said side faces having a thickness therebetween in the range of 0.25 mm to 0.60 mm at said base, said screw being made of a material suitable for human implantation.

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546. A plating system comprising:

an anterior cervical plate adapted to be applied to the anterior human cervical spine, said plate having a lower surface adapted to contact the anterior aspect of at least one cervical vertebral body and an upper surface opposite said lower surface, at least one bone screw receiving hole extending from said upper surface through said lower surface, said bone screw receiving hole being adapted to receive at least one bone screw for engaging the cervical vertebral body to attach said plate to the cervical spine; and

a bone screw adapted to attach said plate to the cervical vertebral body, said bone screw comprising:

a tip;